WO 2005/037947 PCT/JP2004/015968

CLAIMS

1. An agent for inhibition of ice-crystal growth, comprising a non-proteinaceous substance, wherein an aqueous solution of the non-proteinaceous substance in a concentration of 10 mg/ml causes deposition of a non-flat disk-shaped ice crystal.

5

10

20

25

- 2. The agent for inhibition of ice-crystal growth according to claim 1, wherein the non-proteinaceous substance is a polymer having a carbon chain as a main chain.
- 3. The agent for inhibition of ice-crystal growth according to claim 1 or 2, which is added to a heat medium in an ice thermal storage system.
- 4. The agent for inhibition of ice-crystal growth according to claim 1 or 2, which is added to frozen food.
 - 5. An agent for lowering of an ice-crystal growth initiation temperature, comprising a non-proteinaceous substance, wherein an aqueous solution of the non-proteinaceous substance in a concentration of 10 mg/ml shows thermal hysteresis by a temperature of 0.020°C or higher.
 - 6. The agent for lowering of an ice-crystal growth initiation temperature according to claim 5, wherein the non-proteinaceous substance is a polymer having a carbon chain as a main chain.

22

WO 2005/037947 PCT/JP2004/015968

7. The agent for lowering of an ice-crystal growth initiation temperature according to claim 5 or 6, which is sprayed or applied onto a portion for possible attachment of an ice crystal to prevent the attachment of an ice crystal.

5

10

15

- 8. The agent for lowering of an ice-crystal growth initiation temperature according to claim 5 or 6, which is sprayed or applied onto a ground surface or an agricultural crop to prevent freezing or frost damage thereof.
- 9. An agent for control of water freezing, comprising a non-proteinaceous substance, wherein an aqueous solution of the non-proteinaceous substance in a concentration of 10 mg/ml shows thermal hysteresis by a temperature of 0.020°C or higher and causes deposition of a non-flat disk-shaped ice crystal.
- 10. The agent for control of water freezing according to claim 9, wherein the non-protein accoussubstance is a polymer having a carbon chain as a main chain.
- 20 11. The agent for control of water freezing according to claim 9 or 10, which is injected into a living tissue or a body fluid to prevent damage of the living tissue or freezing of the body fluid under a freezing point thereof.

23